

FIGURE 1:

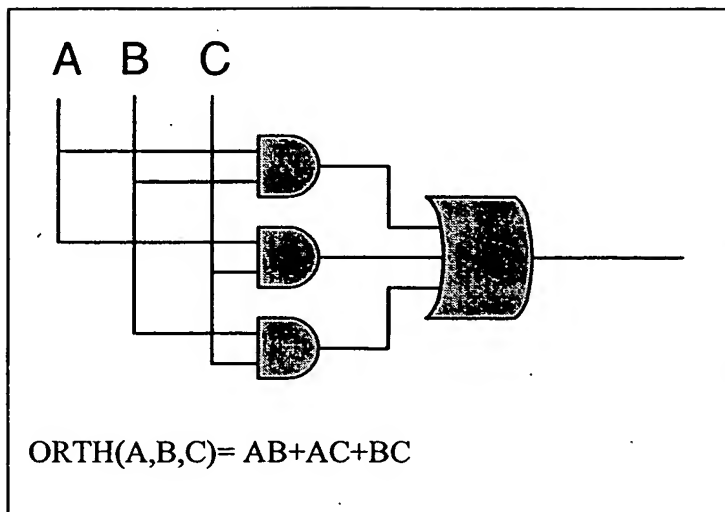


FIGURE 2:

Inputs	Number of ANDs	Number of ORs	Total Gates
2	1	0	1
3	3	2	5
4	6	5	11
5	10	9	19
6	15	14	29
7	21	20	41
8	28	27	55
9	36	35	71
10	45	44	99
11	55	54	109
12	66	65	131
13	78	77	155
14	91	90	181
15	105	104	209
16	120	119	239

FIGURE 3A

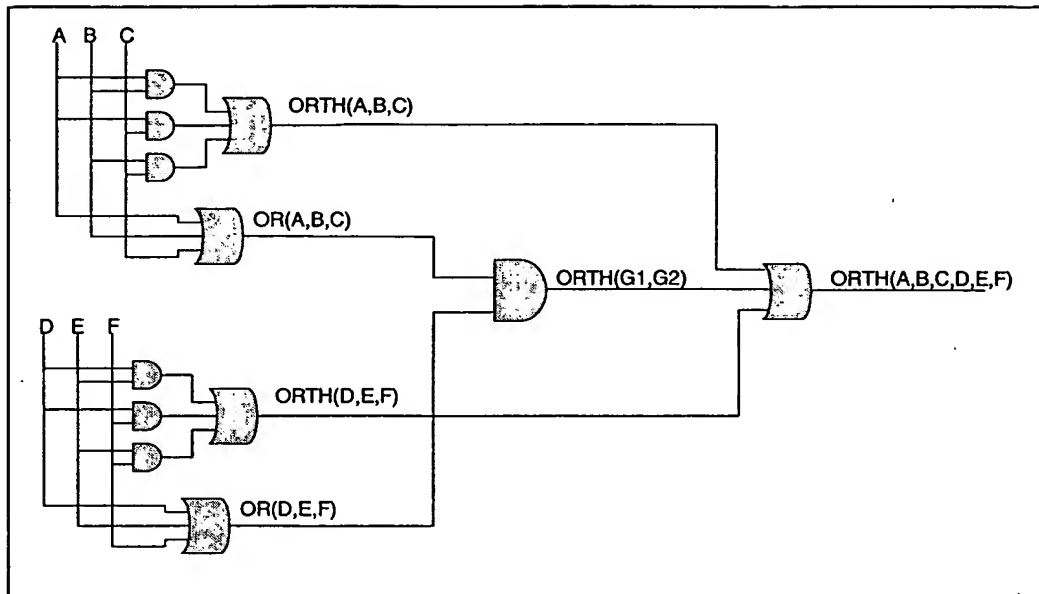


FIGURE 3B

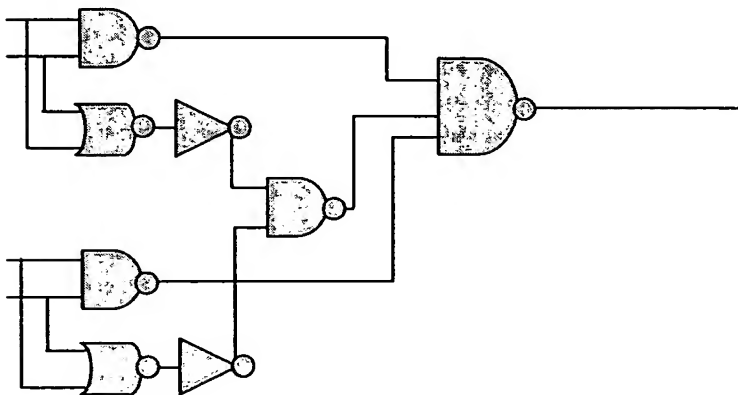


FIGURE 4:

- $\text{ORTH}(A,B,C,D) = AB+AC+AD+BC+BD+CD$
- $=AB+CD+AC+AD+BC+BD$
- $=AB+CD+(A+B)(C+D)$
- $=\text{ORTH}(A,B) + \text{ORTH}(C,D) + \text{ORTH}(A+B,C+D)$

FIGURE 5

Cellname	Width	Normalized Area
INV	22.5	2.5
NAND2	27	3
NAND3	36	4
NAND4	45	5
NOR2	27	3
NOR3	36	4

FIGURE 6.

Inputs	Number of ANDs	Number of ORs	Total Gates	Number of ORTH2	Number of ORTH3	Additional OR2's	New Total Gates	Savings (in Gates)
2	1	0	1	1		0	1	0
3	3	2	5		1	0	5	0
4	6	5	11	3		4	7	4
5	10	9	19	2	1	5	12	7
6	15	14	29	3	1	6	14	15
7	21	20	41	6	0	10	16	25
8	28	27	55	7		12	19	36
9	36	35	71	7	1	14	26	45

FIGURE 7

Inputs	Total Gates (old style)	Total Gates (new style)	Total Area (old style)	Total Area (new style)	Savings (in Gates)	Savings (in Area)
4	4	3	22	15	1	7
6	12	14	61	45	-2	16
8	23	19	116	66	4	50
10	36	26	185	90	10	95